

Notes on the leather khipu boards or ‘wankaunas’ of San Pedro de Casta, Peru

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Abstract

How might a simple synthesis of existing anthropological and historical sources yield fresh insights into an enigmatic and niche area of research increasingly approached through complex statistical and methodological approaches?

This article presents novel findings concerning the kinds of materials used to construct Andean cord notation registers known as *khipus* (*quipus*). With a focus on hybrid *khipu*-alphabetic records known as khipu boards, the article centres on the early twentieth century accountancy customs of the highland Huarochirí village of San Pedro de Casta (Lima, Peru). While existing research has assumed the cords of the elusive Casta khipu board(s) — used to record work performance at the annual irrigation ceremony — to be made from yarn, local testimony holds that they were made from leather. Accordingly, this article represents the first confident identification of a leather khipu register.

In addition to the above, the paper reflects on the use of wood from the succulent plant *maguey* for producing the boards for these colonial-era and republican era registers.

Finally, it illuminates an area of promise for the ongoing decipherment of khipu boards: the hypothesis that knots on khipu boards recorded the completion of work tasks performed in sequence; an individual could earn a knot for sufficiently completing each task (or phase of a task).

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Introduction

On an October Monday morning over a century ago², an intriguing object caught the eye of the famed archaeologist hailing from Peru's Huarochirí province, Julio C. Tello. Tello had been conducting fieldwork in the Huarochirí village of San Pedro de Casta around 1919 when he observed the use of a khipu board on the first day of the community's annual week-long canal-cleaning ceremony. Tello—or an associate of his—observed the register in use at a specific tract of canal called Wanka Acequia, where the community's men underwent an assessment of their preparedness for the canal-cleaning work to be undertaken in the day ahead.

Tello wrote about this khipu board ceremony in an article coauthored with Próspero Miranda, who was a local from San Pedro de Casta (also 'Casta'). The authors mention that the men sat in a circle whilst the principal authority of the *champería* (El Principal) recorded the names of the men who were missing (Tello and Miranda 1923, 534).

Somewhat frustratingly for khipu scholars a century on, Tello and Miranda's 1923 summary of the use of the khipu board—which they call a 'wooden register' ("padrón de madera") — does not go into great detail³:

“...it consists of a rectangular board, complete with its corresponding handle; on one of its faces, the names of the workers appear. It annotates mnemonically, by means of cords of different colours that pass through a

² The date may have been Monday the sixth of October 1919. A photograph album in the Tello Archive in Lima [Lima, Caja 1, Folder 8, Archivo Tello.] suggests that Tello was made aware of precolonial mortuary structures at the site of Marcahuasi in San Pedro de Casta in 1919 or thereafter. The photograph album, including photos of Marcahuasi, was produced by Tello's colleague from the United States, Philip Ainsworth Means. Tello's own notebook from his fieldwork in Casta is undated. I am grateful to Victor Paredes Castro and the team from the Tello Archive in Lima [Archivo Tello, Casona Cultural, Universidad Nacional Mayor de San Marcos] for granting me access to this important archive in 2022.

³ For the earliest and most robustly contextualized study of a khipu board from the Central Peruvian Highlands, see the work of Robles Mendoza on a khipu board from Mangas in Ancash (.e.g Robles Mendoza 1982).

hole placed next to each name, and by means of knots, not only absences and the quality of the work carried out, but everything that the authorities require of the worker as essential accessories to attend to the work: special clothing, *wallkis* [looped bags for storing coca leaves; worn around the neck by men], *shukank'as* [a small dipping spoon or cone for consuming alkaline lime powder when chewing coca leaves], *ishkupurus* [a small gourd container for storing alkaline lime powder for chewing coca leaves], tools, and even the greater and lesser enthusiasm of each person; with the objective of presenting it for the consideration of the elders on the day of the Wari Runa [the traditional accounts ceremony that brings a close to the *champería*]. (Tello and Miranda 1923, 534)⁴

Remarkably, Tello and Miranda's verdict on the *significance* of the khipu board for khipu studies was dismissive: "This mnemonic board is a very degenerate survival of the K'ipu [khipus]" (Tello and Miranda 1923, 534).⁵ Curiously though, Tello and Miranda failed to mention an unusual feature of the Casta khipu board: that its khipu cords were *made from leather*. The remainder of this paper shall document the origin and significance of this insight which has eluded khipu scholars.

⁴ My translation from the original Spanish: "...consiste en una tabla rectangular, provista de su correspondiente mango; sobre una de sus caras aparecen los nombres de los obreros, y por medio de cordones de diferentes colores, que pasan a través de un agujero colocado al lado de cada nombre, y de nudos, se anota nemónicamente, no sólo la falta de asistencia, y la calidad del trabajo realizado, sino todo aquello que las autoridades exigen al obrero como accesorios indispensables para atender el trabajo: vestidos especiales, wallkis, shukank'as eishkupurus, herramientas, y aún el mayor y menor entusiasmo de cada persona; con el objeto de presentarlo a la consideración de los ancianos, el día de la Wari Runa."

⁵ "Este tablero memotécnico es una supervivencia muy degenerada de los K'ipu". (Tello and Miranda 1923, 534).



Figure 1. The Casta khipu board or ‘wooden register’ as depicted in Tello and Miranda (1923, 534).

Moisés Obispo and the leather khipu boards of San Pedro de Casta

In 1981, Peruvian journalist Alfonsina Barrionuevo reported an extraordinary piece of information about an enigmatic object called a ‘wankauna’. Barrionuevo’s work on ancestral traditions in the Lima highlands (compiled in a 1981 book) had taken her to San Pedro de Casta, where she interviewed a local elder and octogenarian named Moisés Obispo.

Obispo’s recollections of the item he called a ‘wankauna’, recorded by Barrionuevo, correspond to a khipu board. These colonial hybrid khipu-alphabetic registers—which combine Andean cord notation with alphabetic script—were introduced by the Mercedarians to the Andes in the sixteenth century (see, e.g., Hyland et al 2021). While the aforementioned ethnography of Casta by Tello and Miranda documented the use of a khipu board during the village’s canal-cleaning customs in the early twentieth century (Tello and Miranda 1923), recent research suggests that khipu boards continued to be used in Casta

until around the mid 1900s (Bennison 2019; Hyland et al. 2021; Bennison 2022, Bennison 2023). Despite this relatively recent history of khipu board use in Casta, the materiality of Casta's khipu boards has been a mystery, not least since the community's khipu boards are apparently no longer to be found in Casta. Obispo's testimony gathered by Barrionuevo sheds new light:

"Dr. Julio C. Tello," says Obispo, "brought to the National Museum a 'wankauna,' a piece of wood with knotted leather cords, which served for rigorous control of the work, like a kind of small register carried by the kamachikuq [camachico]. Those who failed to comply had fewer knots in their cords and were severely punished." (Barrionuevo 1981, 71-72).⁶

The testimony of Don Moisés published in Barrionuevo's book represents the second published eye-witness account of a Casta khipu board (with Tello and Miranda 1923 representing the first). Although Don Moisés alerted Barrionuevo to Tello's interest in (and removal of) the 'wankauna', Barrionuevo does not appear to have identified the item as an example of the kind of khipu board mentioned and depicted in Tello and Miranda 1923.

Astonishingly, however, neither khipu scholars nor a sizeable community of ethnographers of Casta's canal-cleaning customs have identified that Barrionuevo's 'wankauna' represents a khipu board. This is lamentable, because Don Moisés supplied information that diversifies our understandings of khipu materiality: chiefly, the revelation that khipu cords could be made from leather.

Existing research has assumed the cords of the Casta khipu board(s) — used to record work performance at the annual irrigation ceremony — to be made from yarn. For example, Hyland has described the cords of the Casta khipu boards as 'twisting textile': "The labor that produces this human perspiration was recorded in the twisting textile lines of the khipu

⁶ My translation from the original Spanish: "El Dr. Julio C. Tello, refiere Obispo, se llevó al Museo Nacional; una 'wankauna', madera con cordoncillos de cuero anudados, que servían para el control riguroso de las faenas, como una especie de padroncillo que llevaba el kamachikuq. Los que faltaban tenían menos nudos en sus cordones y eran castigados severamente." (Barrionuevo 1981, 71-72).

cords.” (Hyland et al 2021: 411). In a similar vein, Koulouri has assumed the cords of the Casta khipu board(s) to be fashioned from wool: “The wool quality or ‘thickness’ of the cord must have been used as a proxy due to its immediate visibility.” (Koulouri 2023).

Readers of my single-authored work on Casta’s khipu boards (e.g. Bennison 2022, 2023) may notice that I have not referred to the cords of the depicted khipu board in Tello and Miranda—or any of Casta’s khipu boards—as woollen. There is a reason for this: the illustration of the Casta khipu board featured in Tello and Miranda 1923 makes it clear that its cords were not spun or plied (see Figure 1).

That the cords of the Casta ‘padrón de madera’ khipu boards were strands of leather thong is a notion supported by the only known image of a Casta khipu board (Tello and Miranda 1923, 534). Analysing this illustration (see Figure 1), we can observe that the khipu cords are depicted as smooth, thin and uniform in width. The khipu cords appear to be made from an identical material to the hanging loop dangling from the board’s handle. More than a century has passed since the illustration of this khipu board was published (Tello and Miranda 1923) and yet scholars working on khipus and khipu boards have not noticed the smooth appearance of the cords.

Furthermore, we can observe that the khipu cords appear short and they are knotted at the extremities. We cannot see whether they are knotted multiple times at the back or whether they are simply short cords. The depicted ‘padrón de madera’ khipu board has 68 holes, structured in 4 vertical columns, with 17 holes per vertical column. Having 68 holes, the device had the capacity to store records of work performance for up to 68 people (or alternatively, 68 households). The illustration shows 53 attached cords. Of these 53 attached cords, only five cords are depicted as dangling visibly on the front of the board, while the presence of the other 48 cords is apparent only because a front-facing endknot on each sits flush against the surface of the board. How might Obispo’s testimony help us to understand how labour performance was tracked on the khipu board(s)?

Obispo’s testimony reveals that individuals with a lower work performance score had less knots in their corresponding cord. As Tello and Miranda reported, the workers’ names appear on the board of the khipu board; furthermore, we can observe that each cord corresponds to an individual’s name. Casta’s Entablo regulations for the *champería* tell us

about how the men's scores for their labour performance throughout the entire *champería* (also factoring in their social and moral performance throughout the entire year) were allocated in a segment penned in the early 1920s. On a register called a *planilla* (report list), the men were each allocated a performance score as the proceedings began to draw to a close with a tribunal led by the community elders. For men, the possible scores were as follows:⁷

Rebel—355

Fulfilled—12

Surpassed – 5

“Owes 2” –352

“Owes 1” –351

(Bennison 2023, 44)

A ‘rebel’ in this context refers to someone who has not fulfilled their labour duties sufficiently, or who was absent from the canal-cleaning work. As such, a ‘rebel score’ constitutes the lowest score.

As I have explained elsewhere, it appears that: “...scores beginning with a ‘3’ indicate a debt, the value of which follows the ‘5’. Note that the ‘3’ at the start of the rebel scores appears to ‘invert’ the idealization of ‘5’. While a ‘5’ is the highest score, a ‘5’ prefixed with a score beginning with ‘3’ indicates the poorest result. Prefixing a number value with a ‘1’ appears to be positive or neutral” (Bennison 2023, 44). While corporal punishment (and frequently the administering of a set number of lashes) were features of reckoning ceremonies designed to ‘cancel out’ workers’ debts (Tello and Miranda 1923, 548; Bennison 2022; Bennison 2023), it is also possible that debts in the form of labour days were accrued by those with unsatisfactory scores (i.e., those in the ‘owing’ and ‘rebel’ categories).

⁷ Women also received scores, however here I focus on the men's labour, since the khipu board in Tello and Miranda corresponded to men's labour.

In the Huarochirí province, the number 5 is deeply linked to the sacred ancestors, who are said to own and control water (Bennison 2016, 159). Interestingly, in Casta, the hispanised Quechua verb ‘pichcar’ (‘to five’) means ‘to clean canals’⁸ (Haboud de Ortega 1985, 99).

On the reliability and significance of Obispo’s testimony

When Barrionuevo interviewed Don Moisés Obispo in the 1980s, he was in his mid-eighties. Obispo was not only an eyewitness to his village’s khipu board practices; his labour in community labour events would almost certainly have been tracked by one. Obispo’s memories of Casta’s khipu boards are important, not least because the whereabouts of the community’s khipu boards—which apparently fell out of use in the mid twentieth century—are unknown today, although one specimen is rumoured to be kept by elders in a nearby village. Today, many younger and middle-aged locals in Casta are unaware of their village’s relatively recent history of khipu board traditions. Nevertheless, some elderly *casteños* remember seeing multiple khipu boards on display during the *champería* at Casta’s ceremonial *plaza* Cuhuay in their childhood (Bennison 2023, xv).

In 2022, a local from Casta disapprovingly reported to me that Julio Tello had – illegitimately – taken one of Casta’s khipu boards to the ‘National Museum’ [‘Museo Nacional’].⁹ Given that Tello and Miranda’s 1923 article features a moderately detailed drawing of the Casta khipu board, one wonders if the item was, as reported, taken with Tello to Lima to be subsequently illustrated and analysed. The illustration of the Casta khipu board in Tello and Miranda’s 1923 article may have been drawn by Pedro F. Ulloa. Ulloa was a museum artefact illustrator who collaborated with Tello and Miranda on their Casta work (Tello and Miranda 1923, 522). Nevertheless, Ulloa may indeed have travelled with Tello to Casta; the illustrator is acknowledged in the 1923 article for gathering information from some Casta “natives” (“nativos”) about the community’s historical customs involving human sacrifice (Tello and Miranda 1923).

⁸ My translation from the original Spanish: “Limpiar (i.e., la acequia)” (Haboud de Ortega 1985, 99).

⁹ I am grateful to the University of St Andrews for funding my 2022 fieldwork in San Pedro de Casta through an Impact and Innovation Fund award. I wish to convey my deepest thanks to the authorities of the Peasant Community of San Pedro de Casta and its members for supporting my research in Casta.

Obispo reported to Barrionuevo that the ‘wankaunas’ [i.e. the khipu boards] were carried by ‘the kamachikuq’ (‘el kamachikuq’) (Barrionuevo 1981, 71). ‘Kamachikuq’ is an alternative spelling of the term *camachico*, which refers to a traditional Andean authority that, historically, was responsible for khipu record-keeping and collecting taxes (De la Puente 2019, 447). San Pedro de Casta’s internal regulations for the *champería* canal-cleaning ceremony (‘The Entablo’, 1921 et seq.) tell us that, like today, in the early twentieth century, the *camachico* was a paired role, i.e. there are always two *camachicos*, not one (Bennison 2023). The use of the singular to refer to both *camachicos* can be found throughout the 1921 et seq. Entablo manuscript regulations (Bennison 2023). Thus, although Obispo mentioned that the wankauna khipu boards were carried by ‘the kamachikuq’ in the singular, he was referring to two *camachicos* and therefore at least two khipu boards, which would have been divided equally between the *camachicos*. Historically, Casta’s *camachicos* were accompanied by llamas which carried the *camachicos*’ stocks of coca leaf and *chicha* maize beer (Tello and Miranda 1923, 533) and to which the khipu boards may have also been strapped.

Wankauna boards

Obispo’s use of the term ‘wankauna’ to refer to Casta’s khipu boards strongly suggests that their wooden boards were constructed from the ‘trunk’ of the tall-growing succulent plant also known as ‘waylino’, ‘maguey’ or ‘agave’. Haboud de Ortega, who conducted fieldwork in Casta in the 1980s, classifies ‘Wankauna’ as a local word that refers to the dry trunk of the waylino plant, glossing it: “Dry waylino trunk” (1985, 97)¹⁰. According to one of my collaborators in Casta, Maya Olivares, this kind of wood was traditionally used in Casta to make benches.

In Ayacucho in the Central Highlands of Peru, maguey wood was used to make the semasiographic painted boards known as ‘Boards of Sarhua’ (‘Tablas de Sarhua’) from the nineteenth century to the late twentieth century (Strong 2012). These boards—like khipu boards—originated within a colonial context; the “imagery on the boards combines Indigenous and colonial elements” (Strong 2012). Maguey (or ‘wankauna’) wood has an

¹⁰ My translation from the original Spanish: “Tronco seco de waylino” (1985, 97).

historical association with khipus; maguey plant fibre was apparently used historically in the production of some khipus (Radicati di Primeglio [1979] 2006, 309).

The early colonial Quechua Huarochirí Manuscript from the same Peruvian province as San Pedro de Casta suggests that the maguey plant was highly prized in the precolonial era. Chapter 24 describes the customs of *ayllus* (clan-like kin groups) of the upper Lurin valley, who would enter spear-throwing contests where effigies of ancestors were the targets. Contestants would throw spears at one of the effigies while making petitions for good fortune, saying "He'll give me sons, agave fiber goods, and all kinds of animals" (Salomon and Urioste 1991: 123). It appears that maguey, and goods made from it, are deeply linked with the ancestral past; this association seems fitting for the context of Casta, where khipu boards were used at sites associated with the remote ancestral past (Hyland et al 2021, Bennison 2023).

Concluding remarks

In this paper, I sought to highlight the relevance of Alfonsina Barrionuevo's work in Casta for khipu studies. Her work, published in the 1980s, features the testimony of Moisés Obispo, a Casta elder who reported that archaeologist Julio Tello had 'taken' an item that I have identified to be a khipu board constructed from the trunk of the succulent plant maguey, with cords made from strips of leather thong. The findings presented above impel us to consider whether some genres of precolonial 'fully fibre' khipus may have been fashioned from leather cordage.

Although I was encouraged some years ago by a resident of Chosica (Lima, Peru) to travel to the community where the Casta khipu board is reportedly currently being kept, I have so far refrained from doing so, hoping that a Peruvian scholar may do so instead.

I wish to conclude this paper by urging any colleagues familiar with the current location of any of Casta's khipu boards to advocate for their return to San Pedro de Casta, ideally liaising with the authorities of the Peasant Community of San Pedro de Casta (Comunidad Campesina de San Pedro de Casta). According to some locals in Casta today (as well as in the past), Julio Tello took a khipu board from Casta illegitimately; this may potentially be the same khipu board rumoured to be kept in a village not far from Casta today.

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